

Amendments to the Claims

This listing of claims will replace all prior versions of claims in the application.

1. (Withdrawn) A wurtzite thin film containing crystals of a wurtzite structure compound, and
a polarizability X of crystal grains of the crystals being in a range of $51 \% \leq X \leq 100 \%$.
2. (Withdrawn) The wurtzite thin film as set forth in claim 1, wherein the crystals of the wurtzite structure compound orient with respect to a (0002) surface.
3. (Withdrawn) The wurtzite thin film as set forth in claim 1, being made of one compound selected from the group consisting of aluminum nitride, gallium nitride, indium nitride and zinc oxide, or being made of two compounds or more selected from the group consisting of aluminum nitride, gallium nitride, indium nitride and zinc oxide.
4. (Withdrawn) A method for manufacturing a wurtzite thin film containing crystals of a wurtzite structure compound,
the wurtzite thin film being formed by sputtering so that a polarizability X of crystal grains in the wurtzite thin film is in a range of $51 \% \leq X \leq 100 \%$.
5. (Withdrawn) The method as set forth in claim 4, wherein the wurtzite thin film is formed on a substrate having any one of a monocrystalline structure, a polycrystal structure and an amorphous structure.
6. (Withdrawn) The method as set forth in claim 5, wherein a temperature of the substrate is in a range from a room temperature to 800 °C when forming the wurtzite thin film on the substrate.

7. (Withdrawn) The method as set forth in claim 4, wherein a sputtering pressure is in a range from 0.05 Pa to 0.5 Pa when forming the wurtzite thin film by sputtering.

8. (Withdrawn) The method as set forth in claim 4, wherein:
a sputtering gas used for sputtering includes at least argon and nitrogen; and
a nitrogen concentration in the sputtering gas is in a range from 5 % to 90 %.

9. (Withdrawn) The method as set forth in claim 8, wherein the sputtering gas contains 0.2 % to 10 % of oxygen.

10. (Withdrawn) The method as set forth in claim 4, wherein a high-frequency power density used for forming the wurtzite thin film by sputtering is in a range from 1 W/cm² to 12 W/cm².

11. (Withdrawn) The method as set forth in claim 4, wherein the wurtzite thin film is formed so as to have a thickness of 25 nm or more.

12. (Withdrawn) The method as set forth in claim 4, wherein the wurtzite thin film is made of one compound selected from the group consisting of aluminum nitride, gallium nitride, indium nitride and zinc oxide, or is made of two compounds or more selected from the group consisting of aluminum nitride, gallium nitride, indium nitride and zinc oxide.

13. (Currently Amended) A laminate, which is applied as an electronic component material having a piezoelectric property, comprising:

a substrate;

a first wurtzite crystalline layer, made of a wurtzite crystalline structure compound, which has so as to have a thickness of 50 nm to 200 nm and which is formed directly on the substrate so as to be in contact with an entire surface of the substrate;

a functional material layer which covers an entire surface region of the first wurtzite crystalline layer and which is made of an elementary substance of molybdenum or tungsten or of a compound containing at least one of molybdenum and tungsten so as to have a thickness of 100 nm to 300 nm; and

a second wurtzite crystalline layer which covers the functional material layer and is made of the wurtzite crystalline structure compound, and

the first wurtzite crystalline layer, the functional material layer and the second wurtzite crystalline layer being stacked on or above the substrate in this order so as to have a four layer structure.

14. (Original) The laminate as set forth in claim 13, wherein the substrate is made of any one of a monocrystalline material, a polycrystal material and an amorphous material.

15. (Previously Presented) The laminate as set forth in claim 13, wherein a c axis perpendicular to a (0001) surface of the wurtzite crystalline structure compound constituting the first wurtzite crystalline layer and a c axis perpendicular to a (0001) surface of the wurtzite crystalline structure compound constituting the second wurtzite crystalline layer orient substantially perpendicular to a surface of the substrate.

16. (Previously Presented) The laminate as set forth in claim 13, wherein at least one of the first wurtzite crystalline layer and the second wurtzite crystalline layer contain as a main constituent one compound or more selected from the group consisting of aluminum nitride, gallium nitride, indium nitride and zinc oxide.

17. (Previously Presented) The laminate as set forth in claim 13, wherein the first wurtzite crystalline layer and the second wurtzite crystalline layer contain aluminum nitride as the main constituent.

18. (Previously Presented) The laminate as set forth in claim 13, wherein the first wurtzite crystalline layer and the second wurtzite crystalline layer are made of a same constituent(s).

19. (Previously Presented) The laminate as set forth in claim 13, wherein the functional material layer contains any one of a monocrystalline material, a polycrystalline material and an amorphous material.

20. (Previously Presented) The laminate as set forth in claim 13, wherein the functional material layer contains a conductive material.

21. (Previously Presented) The laminate as set forth in claim 13, wherein the functional material layer contains a metal.

22. (Original) The laminate as set forth in claim 21, wherein the functional material layer contains a metal having a body-centered cubic structure or a hexagonal close-packed lattice structure.

Claims 23-25. (Canceled)

26. (Withdrawn) A method for manufacturing a laminate, comprising the steps of:

forming on a substrate a first wurtzite crystalline layer made of a wurtzite crystalline structure compound;

forming a functional material layer so that the functional material layer covers the first wurtzite crystalline layer; and

forming on the functional material layer a second wurtzite crystalline layer made of the wurtzite crystalline structure compound,

at least one of the steps being carried out by a vapor deposition.

27. (Withdrawn) The method as set forth in claim 26, wherein the vapor deposition is a physical vapor deposition and/or a chemical vapor deposition.

28. (Withdrawn) The method as set forth in claim 27, wherein the physical vapor deposition is a vacuum deposition, a molecular beam epitaxy, a laser ablation, a sputter deposition, an ion plating, an ion cluster beam deposition or an ion beam deposition.

29. (Withdrawn) The method as set forth in claim 27, wherein the chemical vapor deposition is a thermal CVD, a photochemical vapor deposition, a high-frequency plasma CVD, a micro wave plasma CVD, an ECR plasma CVD or a DC plasma CVD.